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GENERAL STUDIES (TEST CODE : 1403)

Name of Candidate	Srishti Singh		
Medium Eng./Hindi	English	Registration Number	665492.
Center	OGN	Date	30/11/20.

INDEX TABLE

Q. No.	Maximum Marks	Marks Obtained
1	10	
2	10	
3	10	
4	10	
5	10	
6	10	
7	10	
8	10	
9	10	
10	10	
11	15	
12	15	
13	15	
14	15	
15	15	
16	15	
17	15	
18	15	
19	15	
20	15	

Total Marks Obtained:

Remarks:

INSTRUCTIONS

1. Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code).
   उत्तर पुस्तिका में सूचनाएं भरना आवश्यक है (नाम, प्रश्न–पत्र कोड, विद्यार्थी क्रमांक आदि)।
2. There are **TWENTY** questions printed in **ENGLISH & HINDI**
   इसमें बीस प्रश्न हैं अंग्रेजी और हिन्दी में छपे हैं।
3. **All questions are compulsory.**
   सभी प्रश्न अनिवार्य हैं।
4. The number of marks carried by a question/part is indicated against it.
   प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं।
5. Answers must be written in the medium authorized in the Admission Certificate, which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in medium other that the authorized one.
   प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए जिसका उल्लेख आपके प्रवेश पत्र में किया गया है और उस माध्यम का स्पष्ट उल्लेख प्रश्न–सह–उत्तर (क्यूसीए) पुस्तिका के मुख्य पृष्ठ पर अंकित निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिए गए उत्तर पर कोई अंक नहीं मिलेंगे।
6. Word limit in questions, if specified, should be adhered to.
   प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
7. Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.
   उत्तर पुस्तिका में खाली छोड़ा हुआ पृष्ठ या उसके अंश को स्पष्ट रूप से काटा जाना चाहिए।

16-B, 2nd Floor, Above National Trust Building, Bada Bazar Marg, Old Rajinder Nagar, Delhi-110060

Plot No. 857, 1st Floor, Banda Bahadur Marg (Opp Punjab & Sindh Bank), Dr. Mukherjee Nagar Delhi- 110009

EVALUATION INDICATORS

1. Contextual Competence
2. Content Competence
3. Language Competence
4. Introduction Competence
5. Structure - Presentation Competence
6. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

All the Best

anything this margin (इस भाग में कुछ ना लिखें)

1. Explain how the theory of Plate Tectonics helps in understanding the mechanism of volcanism. **(150 words) 10**

व्याख्या कीजिए कि प्लेट विवर्तनिकी सिद्धांत ज्वालामुखी की क्रियाविधि को समझने में किस प्रकार सहायता करता है।

Plate Tectonics theory explains movements of tectonic plates in divergent, convergent & transverse plate boundaries, important to understand volcanism.

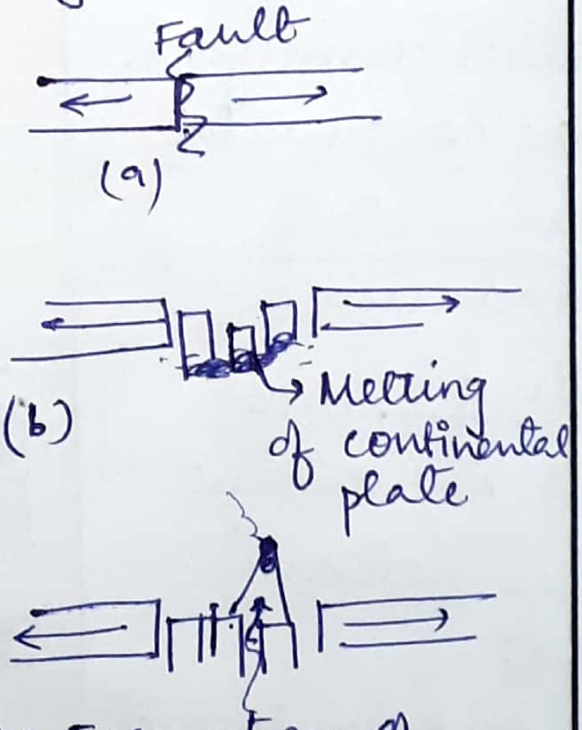
Divergent Plate Boundary

a) Due to plate divergence faulting occurs creating blocks.

b) These blocks subside & melt forming lithospheric magma

c) This lithospheric magma causes formation of volcanic peaks of caldera & ash and cinder type

eg: Mt Kilmanzaro of Africa.



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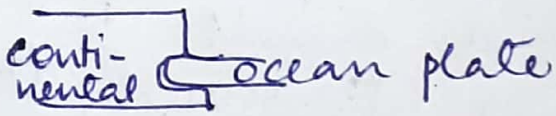
Convergent Plate Boundary

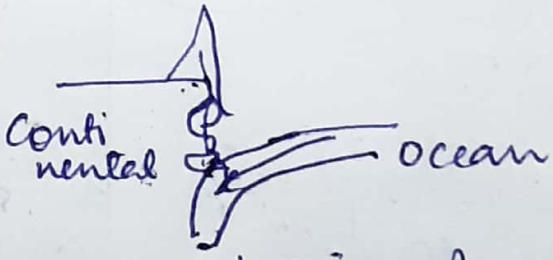
1) Due to convergence of plates, subsidence occurs creating lithospheric magma. & formation of volcanic islands
eg: Sunda Islands.

subsidence & melting of ocean plate

formation of islands with volcanic peaks.

2) Further convergence forms continental oceanic plate boundaries & folding, these fold mountains have volcanic peaks
eg: Andes, Rockies
eg: Mt. Aconcagua.





Formation of volcanic fold mts.

These mechanisms help in prediction & understanding of volcanic eruptions in the world

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2. Discuss how technology can help India cope with disasters.

(150 words) 10

चर्चा कीजिए कि प्रौद्योगिकी भारत में आपदाओं से निपटने में कैसे सहायता कर सकती है।

Technology can play proactive role in all 4 stages of disaster management - preparation, response, recovery & mitigation

Technology & Disaster Management

a) Preparation

1.) Analysis of intensity : Through wind graphs, speed patterns.
eg: During upcoming cyclones.

2) Vulnerability analysis : Through digital surveys

3) Awareness - Through mass media for evacuation of people early to disaster

b) Response

1. Identifying damage - Use of satellites, and GPS data

anything this margin (इस भाग में कुछ ना लिखें)

2. Call for help by trapped victims

3. Evacuation : coordination between NDRF, and govt through communication technology.

c) Recovery :

1. Rehabilitation - Through e-medicine for affected areas.

2. Infrastructure reconstruction through geomapping, disaster reselient technologies

d) Mitigation :

1. Preemptive Information through seismography, rainfall analysis

2. strengthening IMD with modern technologies to ace predictions

3. capacity Building through online workshops

4. survey - using drones, IoT.

Technology thus can ensure effective implementation & must be made part of NDMA strategies

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3. Bring out the importance of community-based disaster management in India. **(150 words) 10**

भारत में समुदाय-आधारित आपदा प्रबंधन के महत्व को स्पष्ट कीजिए।

Community based disaster management is necessary to evade rising climate risk & disasters. (India 5th most risky towards changing climate)

→ Global Climate Risk Report

Importance

1. Multiplicity of disasters call for effective utilisation of humanforce

2. Region specific disasters call for awareness & preparedness of communities

eg: Cyclones → Coastal Belt
Floods → River banks
Earthquakes → Himalayan region mostly.

anything this margin (इस भाग में कुछ ना लिखें)

3. Preparedness can improve response & reduce impact

Eg: During Fani cyclone, preparedness saved lives in Odisha.

4. Improved & reselient infrastructure construction due to more community awareness

5. Fulfillment of Sendai Framework which calls for community involvement.

6. Faster recovery & mitigation after disasters.

7. Generating sense of ownership & belongingness towards disaster management amongst community.

~~These~~ Cruciality of community participation needs more inclusive policies of distaster management in India.

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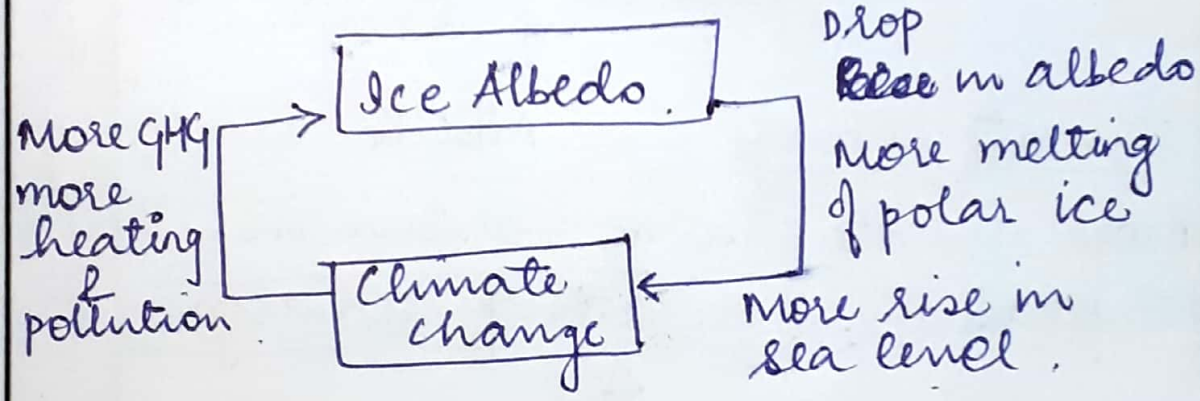
4. What is ice-albedo feedback and how is it related to climate change?

(150 words) 10

आइस-एल्बिडो फीडबैक क्या है और यह जलवायु परिवर्तन से किस प्रकार संबंधित है?

Ice Albedo Feedback is a positive feedback, which decreases albedo of ice & effective climate change.



Relation with climate change

1) Ice Albedo → Climate change

a) Drop in ice albedo (darker ice) causes more absorption of sunlight

b) More absorption → more melting of polar ice

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c) More melting → Melting of Permafrost
" " Glaciers

d) Permafrost Melting ⇒ Release of CO_2 & other GHGs.

e) Glacier melting ⇒
- Rise in sea level
- change in cryosphere
- Impact on global climate

ii) Climate change → Albedo

a) More climate change → rise in temperature → growth of red algae
⇓
Drop in albedo.

b) Pollution → Black soot, ash → Drop in albedo
⇑
climate change

Thus both albedo & climate change have a cyclic relationship where change in one increases the other.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

5. Why has there been an increase in the frequency of Glacial Lake Outburst Floods across the world? Highlight the measures, which can be taken to tackle these floods. **(150 words) 10**

विश्व भर में ग्लेशियल लेक आउटबर्स्ट फ्लड की आवृत्ति में वृद्धि क्यों हुई है? ऐसे बाढ़ से निपटने के लिए अपनाए जा सकने वाले उपायों को रेखांकित कीजिए।

Glacial lake Outburst floods (GLOF) are caused due to sudden release of water caused by glacier melting or damage of glacier dams.

Reasons for increased frequence

1. Rise in global temperature by more than 1°C (IPCC report) has caused more glacial melting
   eg: Iceland, Hindukush belt saw rise in GLOFs.

2. Damage to permafrost due to mining activities in polar regions ~~area~~ destroys the natural barriers

3. Ozone Hole - has led to rise in polar temperature and more

Do not write anything this margin (इस भाग में कुछ ना लिखें)

GLOFs

4. Poor management of check dams has also caused few cases of GLOFs

Measures needed

1. Under Kigali Agreement, all nations should fulfill their commitments of stopping HFC production.

2. Better mechanisms under UNFCCC to be made towards management of GLOFs.

3. Mining in Artic region must be strictly managed

4. Control over global warming through strict fulfillment of Paris Treaty

Along with these efforts it is needed to build global effort through diplomatic & institutional means to check GLOFs in future.

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6. Give an account of the increasing frequency of cyclonic activity in the Arabian Sea region. **(150 words) 10**

अरब सागर क्षेत्र में चक्रवाती गतिविधि की बढ़ती आवृत्ति का विवरण प्रस्तुत कीजिए।

2019 saw rise in cyclonic actinities in Arabian sea. with 6 major cyclones like Maha, Vayu, Kyarr in Western regions.

Statistics

- Recent years have seen growing frequency of cyclone in Arabian sea, which earlier diverted towards Middle East.

- Arabian sea traditionally reported low no. of cyclones due to:
  1. low fresh water mixing due to less rivers
  2. Lack of ITCZ formation.
  3. Poor strength of cyclones

Do not write anything this margin (इस भाग में कुछ ना लिखें)

Reasons

1. Global Warming : Rise in temperature of Arabian sea due to ~~change~~ more GHGs, creating cyclones

2. Disposal of industrial sludge Resulting in rise of surface temperature

3. Climate change causing shift in wind patterns & exceptional rise in surface temperature.

4. All these factors have resulted in rise in ~~Arct~~ cyclones & hence, there is need to monitor the activities to manage them in future.

anything this margin (इस भाग में कुछ ना लिखें)

7. Explain the phenomena of Sudden Stratospheric warming witnessed in recent years. How does it affect the ozone hole formation over Antarctica? **(150 words) 10**

हाल के वर्षों में देखी गई आकस्मिक समतापमंडलीय तापन की परिघटना की व्याख्या कीजिए। यह अंटार्कटिका के ऊपर ओजोन छिद्र के निर्माण को किस प्रकार प्रभावित करता है?

Sudden stratospheric warming is a temporary phenomena of sudden rise of stratospheric temperature by 50°C or more.

This has been common in recent years due to:

1. Occassional weaking of polar vortex over Arctic & Antarctic region

2. change in wind patterns changing westerly flow directions & strength in upper atmosphere.

Result:

1. It ~~creates~~ weakens polar

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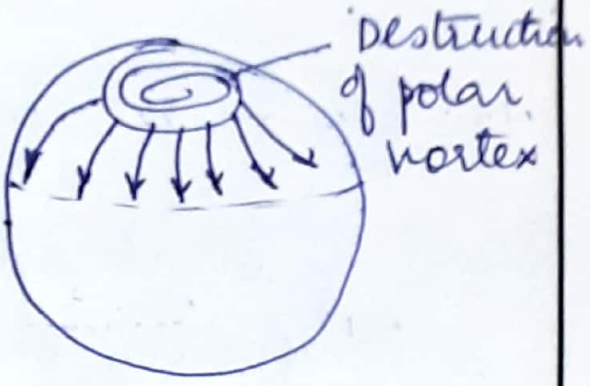
vortex & results in subsidence of air



Effect on ozone hole

1. Since polar vortex is effective contributer of ozone hole, rise in temperature results in small sizing of ozone hole

2. This is due to reduction of chemical reactions which are facilitated by polar clouds

Due to these incidents, ozone hole in 2019 was reported to be smaller over Antarctica.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

8. Explain the concept of volcanic winter giving examples. (150 words) 10
उदाहरण प्रस्तुत करते हुए वोल्कैनिक विंटर की अवधारणा की व्याख्या कीजिए।

Volcanic Winter is the drop in temperature due to rise in albedo of earth after volcanic eruption of large scale.

It has been experienced in :

1. Krakatau volcanic winter of 1890s
2. Explosion of Mt. Etna in 2019.

etc

Concept :

a) Due to volcanic eruption various sulphur aerosols & ash is produced, which is light in colour

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b) Due to ~~lava pr~~ ash production region is covered by such clouds which shield sunlight absorption

c) Due to more albedo of ash, further reflection of sunlight occurs

d) This results in drop in temperature, often termed as volcanic winter

Volcanic eruption → Ash, aerosols produced → Drop in sunlight absorption due to rise in albedo → Volcanic winter

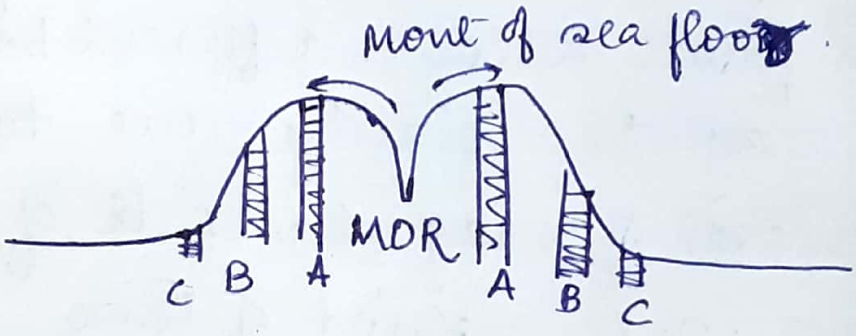
The phenomenon has played important role in evolution of life ~~on~~ on earth & is important impact of volcanic eruptions in modern times.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

9. Bring out the prominent evidences that have been put forward in support of sea-floor spreading. (150 words) 10

सागरीय-अधस्तल विस्तार के समर्थन में प्रस्तुत किए गए प्रमुख साक्ष्यों का उल्लेख कीजिए।

Sea Floor spreading theory was given by Harry Hess to explain constant movement of sea floor.



Evidences

1. Age: The sea floor has been proved to be much younger than continental crust, proving that it had been formed few thousand years ago.

2. Distance from MOR
Sea floor of same age equidistant from Mid Oceanic Ridge.

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3. Age of rocks gradually increase as we move away from MOR

eg: In the fig – $\underset{\text{Age}}{\overset{C > B > A}{\longleftarrow}}$

4. <u>Magnetism</u> – The samples of sea floors show different bands of magnetic polarity due to reversal of magnetic field of earth over a period of time

Recent studies of geo-mapping of ocean floor, satellite data & better probes have also supported this hypothesis.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

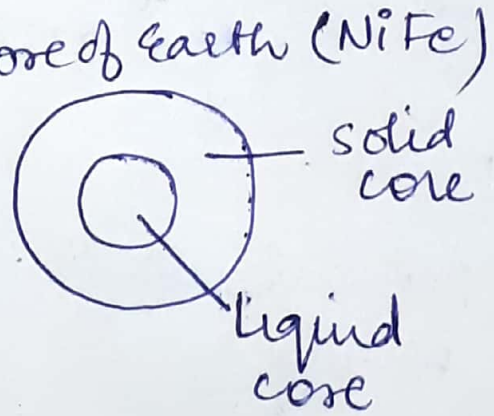
10. Write a brief note on Earth's magnetism and its role in protecting the Earth from solar winds. **(150 words) 10**

पृथ्वी के चुंबकत्व तथा सौर पवनों से पृथ्वी की रक्षा में इसकी भूमिका पर संक्षिप्त टिप्पणी लिखिए।

Earth's magnetic field, often term 'geomagnetism' is instrumental and produced due to its metallic core.

Reason for earth's magnetism

a) The core of earth comprises of ferromagnetic minerals such as Fe



b) Due to suspension of liquid material & inside a solid core at a temperature of 5500°C, the material produces an electric field

c) This is due to monement of earth

anything this margin (इस भाग में कुछ ना लिखें)

on its axis supported by Coriolis forces.

c) Due to this electric field, a magnetic field is generated perpendicularly (Theory of electromagnetism)

d) This field changes its polarity over millions of years

Protection from solar wind

a) The geomagnetism helps in repelling solar flares which are basically charged particles beyond ionosphere

b) This protects earth from harmful solar winds

Magnetism also contributes towards phenomenons such as Auroras happening in the Polls.

anything this margin (इस भाग में कुछ ना लिखें)

11. Explaining the origin and mechanism of Indian monsoon account for the uneven distribution of monsoonal rainfall in India. **(250 words) 15**

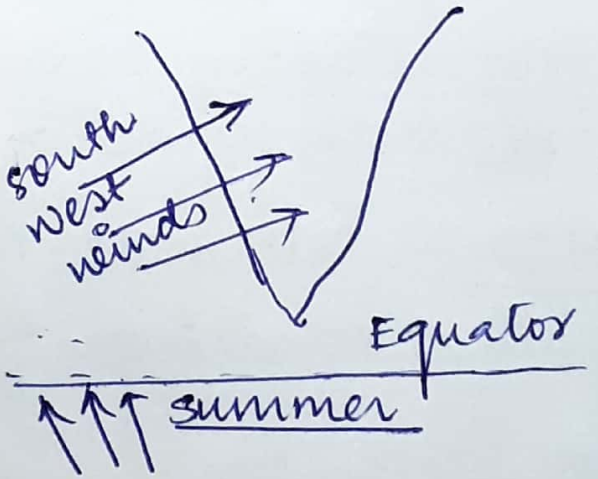
भारतीय मानसून की उत्पत्ति और क्रियाविधि की व्याख्या करते हुए, भारत में मानसूनी वर्षा के असमान वितरण का विवरण प्रस्तुत कीजिए।

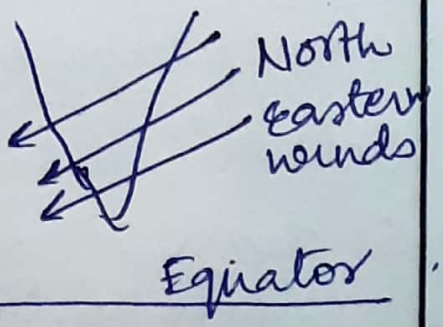
Indian monsoon is a complex phenomenon of seasonal rainfalls in India, which is influenced by multiple factors.

I) Origin & Mechanism

a) Basic Mechanism

Due to creation of low pressure over Indian subcontinent during summer, Tropical easterlies cross equator, pick moisture from Indian Ocean & causes summer monsoons.





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During winters due to higher pressure, these winds move in north east direction, resulting in smaller winter monsoons

b) Factors influencing monsoon:

(i) Position of ITCZ over India (monsoon trough) causing rainfall upto Himalayan foothills

(ii) Importance of Himalayas - Create a branch of jet streams ~~due to~~ (Sub Tropical Easterly Jet stream) which intensifies monsoon

(iii) Tibetan Plateau - Intensifies low pressure conditions

(iv) ENSO — Determines surface pressure temperature condition of Indian ocean

v) MJO — circulations which may improve/ suppress rainfalls

vi) Walker Cells

vii) Indian Ocean Dipole.

ix) Western Disturbances due to temperate cyclones.

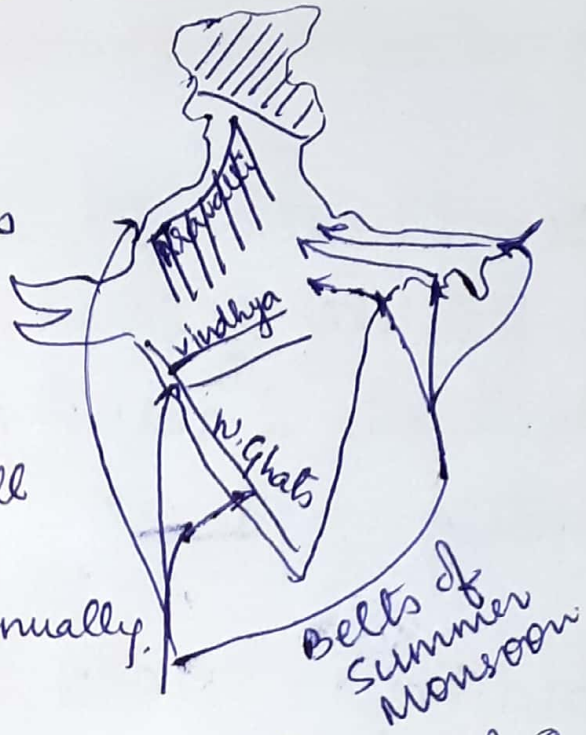
etc.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Uneven Distribution

1. Indian monsoon unevenly distributes across country

North East & W. Ghats
– very high rainfall (200 cm annually)
Rajasthan – 25 cm annually.



Shaded area – Rain shadow

It is due to:

a) Orography creating rain barriers on leeward side

b) Distance from coast of central India

c) Regions of Tamil Nadu coast don't receive monsoon in summers but in winters due to distribution of rain belts (shown in figure)

All these factors along with the factors affecting monsoon create uneven & complex mechanism of rainfall.

Do not write anything this margin (इस भाग में कुछ ना लिखें)

12. How does climate change affect the process of desertification?

(250 words) 15

जलवायु परिवर्तन मरुस्थलीकरण की प्रक्रिया को किस प्रकार प्रभावित करता है?

Desertification stands for decrease in fertility of land, dropping its productivity & turning into a wasteland / desert.

According to UNCCD, more than 30% of Indian land is under influence of desertification.

Impact of climate change:

1. Temperature: Rise in global temperatures by over 1°C according to IPCC report, have resulted in:

- Decrease of soil productivity & drop in moisture
- Death of flora & biodiversity which sustains land.

anything this margin (इस भाग में कुछ ना लिखें)

2. Rainfall - Due to rising droughts & floods, caused by climate change, rainfall has turned erratic, creating:

- Poor soil & land in low rainfall areas → drylands
- Washing away of fertile soil due to flooding of low lying areas.

3. Acidification - Due to rise in toxic compounds in soil, soil has turned acidic and it has dropped fertility.

4. Greenhouse gases - Being the centre reason of climate change, their higher concentration has resulted in drop in soil health

eg: CO_2 + Atmospheric Vapour (H_2O) → H_2CO_3 (Carbonic Acid)

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5. Loss of biodiversity such as trees, burrowing organisms such as annelids have led to poor soil binding

6. Soil Organic carbon has been lost due to lesser biodiversity & more Toxification of soil.

7. Salinity of soil & land has increased due to use of entrophicated water for irrigation, which is in turn boosted by climate change

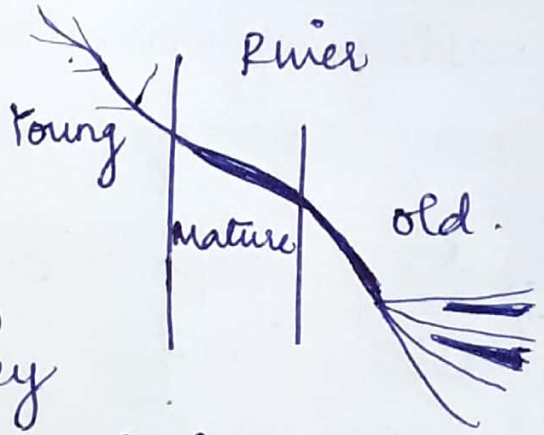
It is hence necessary, to make conservation mechanisms & fulfill targets committed under UNCCD, to ensure land Degradation Neutrality in future.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

13. Give an account of landforms that are shaped by running water as it erodes, transports and deposits sediments. **(250 words) 15**

प्रवाहित जल द्वारा अपरदन, परिवहन और तलछटों के निक्षेपण के कारण निर्मित भू-आकृतियों का ब्यौरा प्रस्तुत कीजिए।

Running Water is an important natural agent of exogenous processes creating various landforms.



1.) Young Age

In young age of water bodies, they emerge out of mountain sources, glaciers, lakes etc

They form:

(a) Rills, gullies through small streams cutting through rocks.

(b) Erode rocks creating V-shaped valleys

c) Form waterfalls, potholes etc due to gradient.

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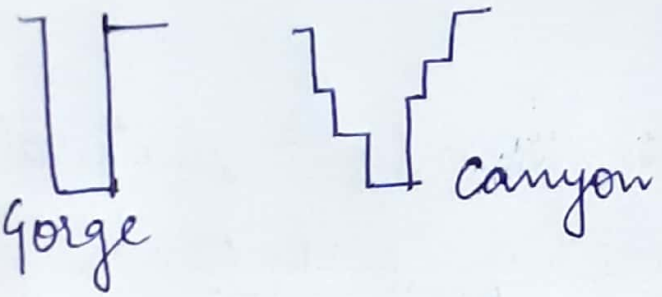
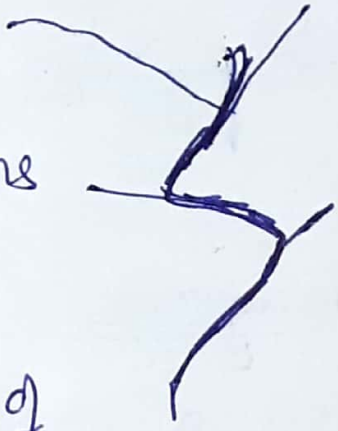
d) Gorges & Canyons while cutting through rocks.



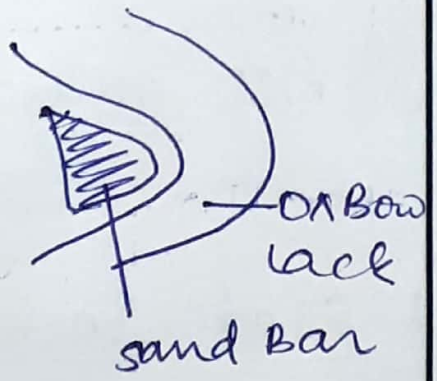
c) Interlocking spurs ⇒ along valleys of mountains
eg: Kashmir Valley



(II) Mature Stage – Deposition of gravels, alluvium etc
(speed becomes slower)

(a) Plains – due to deposition of fertile alluvium.

(b) Ox bow lakes where erosion & deposition occurs simultaneously



(c) Point & Sand Bars

(d) levees : Thick deposits around river channel

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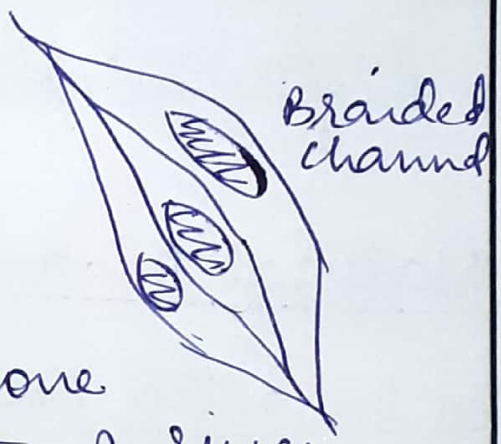
e) Flood plains in lower course.

(iii) Old Age - River very slow, overloaded with sediments

(a) Distributaries - divides into various streams forming braided channels



(b) Estuaries - If river doesn't flow through plains & flows through rift valleys it forms zone of merging of sea water & river

(c) Deltas - Triangular pieces of extremely fertile land formed by depositions

d) Riverine Islands eg: Majuli Island

Thus running water in rivers create various landforms which play important role in socio-economics of humans.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

14. India is vulnerable to a large number of natural as well as man made disasters on account of its geo-climatic and socio-economic conditions. Elaborate. (250 words) 15

भारत अपनी भू-जलवायु एवं सामाजिक-आर्थिक परिस्थितियों के कारण वृहद संख्या में प्राकृतिक के साथ-साथ मानव-निर्मित आपदाओं के प्रति सुभेद्य है। सविस्तर व्याख्या कीजिए।

According to climate Risk report, India has been 5th most vulnerable country. Coupled with socio economic conditions, India is highly vulnerable to disasters.

(1) Natural Disasters

(a) Geoclimactic conditions

1. Himalayas — High tectonic activity frequent landslides, earthquakes

2. Floods — Due to heaviest rainfall regions such as Mawsynram in India, heavy rainfalls are common annual floods in Bihar, Assam, Western ghats etc

Don't write anything this margin (इस भाग में कुछ ना लिखें)

3. Droughts - Due to dependance on monsoons, most part of central India is susceptible to droughts.

4. Volcanic Eruptions in Barren Island of Andaman & Nicobar.

5. Tsunamis due to proximity with Ring of fire in South East Asia eg: Tsunami of 2005.

6. Earthquakes - Most of India under zone 4 & 5 of seismicity.

(II) Socio Economic factors.

1. High population - India has very high population of 130 crores with highest environmental migrants in 2019.

2. Poor Infrastructure resulting in increased vulnerability of country

Don't write anything this margin (इस भाग में कुछ ना लिखें)

3. Poverty: creating inequality towards access to disaster prevention, poor living conditions

4. Urbanisation - Improper urbanisation has resulted in growth of flash floods, biological disasters such as COVID-19.

5. Destruction of biodiversity has caused more risk in eco sensitive zones.

6. lack of awareness due to illiteracy creates more vulnerability for India.

Thus, India needs to seek a multi pronged policy under NDMA to ensure holistic disaster management.

Do not write anything this margin (इस भाग में कुछ ना लिखें)

15. Discuss the need for mainstreaming disability perspective in the efforts towards disaster risk reduction. Also, suggest some measures that can be taken towards Disability-inclusive Disaster Risk Reduction. **(250 words) 15**

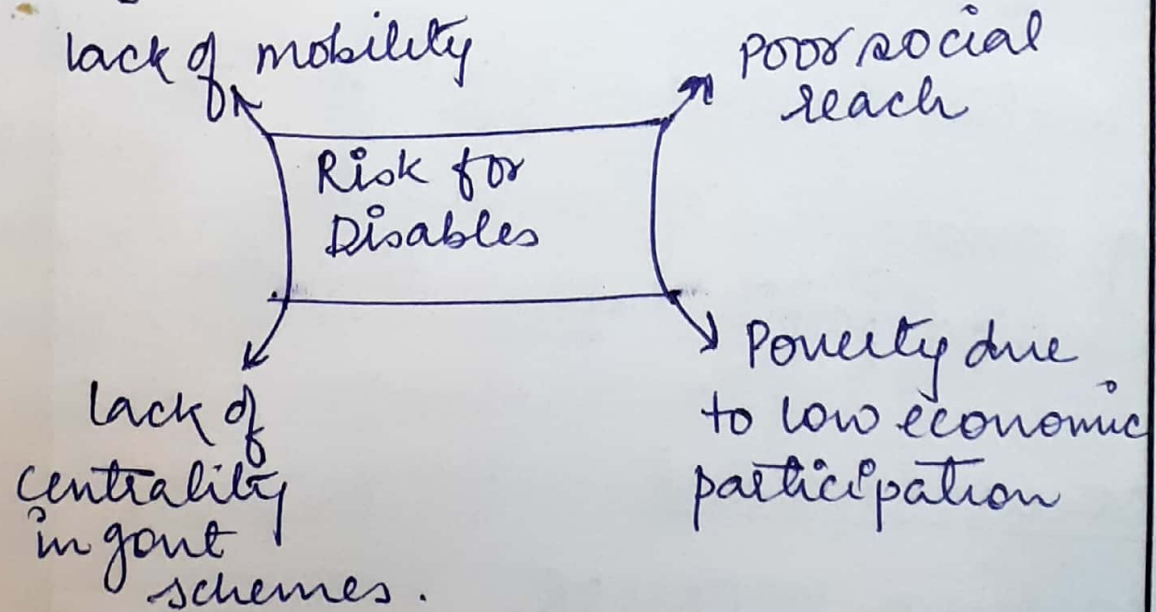
आपदा जोखिम न्यूनीकरण के प्रयासों की दिशा में निःशक्तता संबंधी परिप्रेक्ष्य को मुख्यधारा में समाविष्ट करने की आवश्यकता पर चर्चा कीजिए। साथ ही, निःशक्तता-समावेशी आपदा जोखिम न्यूनीकरण की दिशा में अपनाए जा सकने वाले कुछ उपायों का सुझाव दीजिए।

Disability inclusive Disaster Risk reduction is central to the global standards of Disaster Management under Sendai Framework

Need for mainstreaming :

1. Ensuring equity in protection

Vulnerable sections have way higher risk towards disasters



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2. Major part of death load of disasters comprises of such disabled sections

3. Economic Cost of rehabilitation of these people is higher due to disability & difficult rehabilitation

4. Social Indices are disparate towards them, so they can't themselves face disaster
   eg: Poverty, Unemployment, Diseases

5. lack of accessibility creates difficulty in movement during disasters

6. Violation of Human Rights due to ~~wq~~ ignorance of vulnerable disabled people during disaster.

Measures Needed

According to UNDRR,

Don't write anything this margin (इस भाग में कुछ न लिखें)

1) Disaster management must include following:

a) Chair of Disabled on policy maker's table

b) Freedom of speech to raise issues

c) Support in social, political & economic domain by govts.

d) Awareness of govts towards disabled in disasters

2) Also human rights violations must be checked against disabled

Along with these provisions its necessary to create policy mechanism under NDMA to facilitate disaster management for disabled.

Don't write anything this margin
(इस भाग में कुछ ना लिखें)

16. Explain the causes and consequences of sea level rise. (250 words) 15
समुद्र के जल स्तर में वृद्धि के कारणों एवं परिणामों की व्याख्या कीजिए।

Sea level rise is predicted to be up to as high as 200 cm by 2050, if current trends continue.

It has been detrimental to climate & biodiversity & raised global vulnerabilities

causes of sea level rise:

1. Global warming which has caused increased surface heating of oceans & changed rainfall patterns

2. Melting of polar ice due to global warming has led to rise in ocean levels.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

3. Thermal Expansion of water due to rising temperature has risen sea levels.

Consequences of Sea level rise

1. Environmental:

(a) Threat to biodiversity of low lying areas. Also polar melting has led to threat to polar biodiversity

(b) changes in ocean cycles due to thermal expansion. eg: Thermohaline cycle.

2. Economic

a) loss of land: Eg: Submergence of Jakarta → shift of Indonesian capital

b) loss of economic activities in low areas

c) Economic cost of rehabilitation of migrants

Don't write anything this margin (इस भाग में कुछ ना लिखें)

3. Social
a) Migration of people.
b) Increase in vulnerability
c) Loss of livelihood
d) Prone to tsunamis, floods etc
e) Cyclones → Due to thermal effects are also boosted

4. Political - stress on policy making in coming years.

5. Technological
a) Issues of management of plants in lower area
b) Threat of nuclear leak

6. Ethical
a) Migrants issue would create ethical dilemma to govts
b) Resource shortage would create issues

Thus sea level rise would create multipronged issues, which needs to be dealt with enabling of Paris Treaty at the earliest

Don't write anything this margin (इस भाग में कुछ ना लिखें)

17. Highlight the factors responsible for occurrence of heat waves and its effects on life and economy. In the light of recent guidelines given by NDMA, describe measures to reduce the negative impact of heat waves. **(250 words) 15**

हीट वेव की घटना हेतु उत्तरदायी कारकों तथा जीवन एवं अर्थव्यवस्था पर इसके प्रभावों को रेखांकित कीजिए। NDMA द्वारा हाल ही में जारी किए गए दिशा-निर्देशों के आलोक में, हीट वेव के नकारात्मक प्रभाव को कम करने के उपायों का वर्णन कीजिए।

Heatwaves are hot spells of abnormally high temperatures, typically in central India.

Criteria: More than 40°C temp in plains & 30°C in hills. (IMD)

Factors:

1. Rise in global temperature: This has caused severe hot spells in recent years.

2. Lack of vegetation due to deforestation reduces cooling effect

3. Urbanisation creating heat island effect

4. Industrial Activities cause more GHG emission & heat traps

Don't write anything this margin (इस भाग में कुछ ना लिखें)

5. Ozone depletion leading to more insolation

6. Lower albedo of land in absence of vegetation

Effect

1. On life –
   (a) slowdown of day to day activities
   (b) Threat of 'loo' attacks
   (c) sickness, dehydration
   (d) loss of lives due to heat strokes.

2. On economy –
   a) Slowdown of economic activities due to reduced efficiency of workers
   b) Additional burden for cooling facilities
   c) lesser output ⇒ low exports
   d) Threat to crops due to high temperature
   e) Threat to cattles & animals

Don't write anything this margin (इस भाग में कुछ न लिखें)

Guidelines of NDMA

a) Reduce unnecessary exposure during afternoon hours.

b) Early warning must be given to public

c) Management of shelters for homeless

d) limiting working hours.

Other measures

a) Checking dehydration of working labours → facilities of ORS at sites

b) Schools must be closed in such conditions

c) Water & food supply must be checked to avoid casualities

Along with these steps, an integrated portal for temperature could be created for general public to ensure early preparness.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

18. Discuss the increasing need of 'disaster resilient infrastructure' in India. Mention the steps taken in this direction with specific reference to the Global Coalition for Disaster-Resilient Infrastructure. **(250 words) 15**

भारत में 'आपदा-प्रत्यास्थ अवसंरचना' की बढ़ती आवश्यकता पर चर्चा कीजिए। ग्लोबल कोएलिशन फॉर डिजास्टर-रेजिलिएंट इन्फ्रास्ट्रक्चर के विशेष संदर्भ में इस दिशा में उठाए गए कदमों का उल्लेख कीजिए।

In the light of rising climate change & anthropogenic disasters, climate reselient infrastructure becomes extremely needed.

Need:

1. High vulnerability
   (a) Variety of disasters → floods, earthquakes, landslides, etc.
   (b) Intensity of disasters grown in recent years.
   eg: More than 8 earthquakes in Delhi region during 2020 summer.
   c) High population leading to more casualities.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

d) Poverty & hunger — Death by disaster often accompanied by hunger deaths

2. Global commitments under Sendai Framework, Yokohama Convention, India being a member

3. Human rights protection under signed conventions of UNHRC & UNDRR.

4. Archaic Infrastructure due to low investment & awareness.

5. Economic burden of rehabilitation much greater than creation of climate resilient infrastructure

- According to Sendai Framework, investment of $1 in Disaster Mgmt saves $7 of economy.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Steps taken:

(1) CDRI - launched by Indian PM, to create a global alliance for disaster resellience in transport, communication, accomodation etc.

- Aims for technology sharing
- Architecture of global collaboration through regular meeting, funds etc.

(2) Formation of NDMA & funds at 3 levels for creation of infrastructure

(3) Guidelines for safe infrastructure in commerce.

(4) Promotion & awareness campaigns

A lot more needs to be done through more mechanisms of easing disaster reselient infrastructure in general masses.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

19. Give an account of the natural and man-made causes of forest fires. Highlighting the challenges associated with forest fire management in India, mention the different components of the National Action Plan on Forest Fire. **(250 words) 15**

दावानल के प्राकृतिक एवं मानव जनित कारणों का विवरण प्रस्तुत कीजिए। भारत में दावानल प्रबंधन से संबद्ध चुनौतियों पर प्रकाश डालते हुए, दावानल पर राष्ट्रीय कार्य योजना के विभिन्न घटकों का उल्लेख कीजिए।

Forest fires are common in India with 60% of forests under influence of high or medium intensity fires annually (FSI)

Causes

(I) Natural :

(a) Summer heat can often trigger forest fires.

(b) Lightening : often lightening on trees triggers forest fires

c) Climate cycles : eg: IOD reason of Australian fires.

(II) Manmade :

(a) Climate Change : High temperature

Don't write anything this margin (इस भाग में कुछ ना लिखें)

due to rise of global temperature.

b) To kill pests - Forests are burnt to kill insects, pests, wild animals etc.

c) Agriculture - To obtain more land

d) Housing - To get land for habitation

e) Collection of forest produce such as Mahua Flowers.

Challenges:

1. Improper mechanisms of monitoring Forest fires are difficult to monitor & control

2. Fast spread causes huge destruction of forest property.

3. Political nexus stops mechanisms of control of manmade fires.

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4. lack of surveillance in India
5. Poor technology
6. lack of training & capacity building

Provision of National Action Plan for forest fires

1. Surveillance of forests using GPS, satellites, drones.
2. Capacity building through cross border cooperation.
3. Involvement of locals to effectively manage forests
4. control over manmade fires

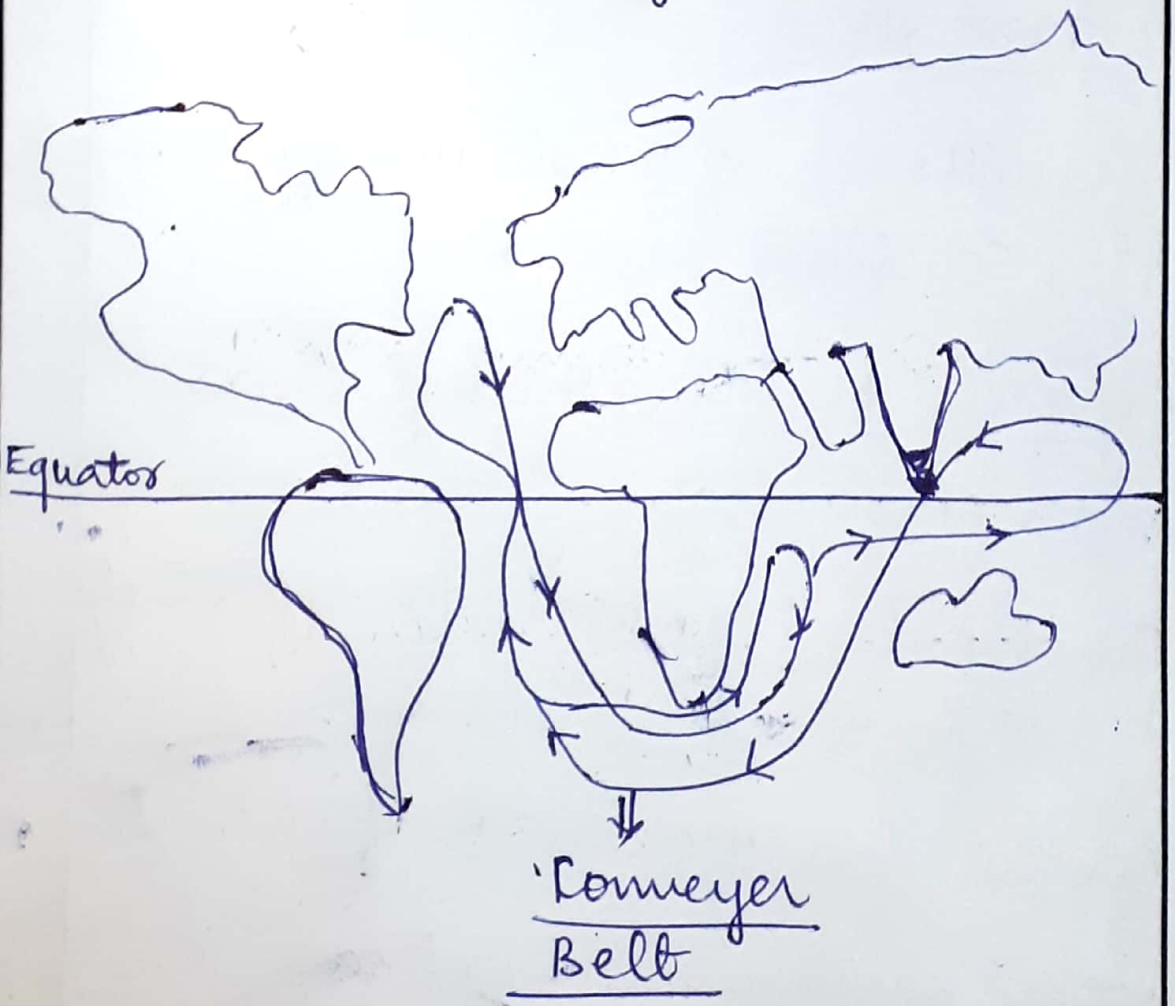
Further mechanisms such as Joint Forest Management can prove helpful in this regards.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

20. What is the global ocean conveyor belt? Discuss its significance for marine ecosystem. (250 words) 15

वैश्विक महासागर कन्वेयर बेल्ट क्या है? समुद्री पारिस्थितिकी तंत्र के लिए इसके महत्व की विवेचना कीजिए।

Global ocean conveyer belts are continuous movements of large water masses across the oceans of the world.



Mechanism

1.) Due to colder polar water, the water grows dense & sinks

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creating a void

2) This enables movement of ocean water towards ~~troptcs~~ poles from tropics

3) This cycle is completed due to continuous mvmt. of water from ~~oco~~ polar regions to tropics & vice versa.

Significance for marine ecosystem

1. Intermixing of nutrients uniformly across oceans. → more nutrients for ecosystems

2. Balancing temperature of water which is crucial for marine life, corals etc.

3. Managing salinity by bringing fresh water from polar regions.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

4. Upwelling - due to continuous movement of water creates better living conditions for fishes

5. Migration of various marine organisms is synced to these conveyer belts
eg: Turtles.

6. Maintain oxygen levels & calcification limits → crucial for marine ecosystems

7. Support marine food chains & bring fresh food for smaller organisms

Thus these cycles are necessary for biological & metabolical sustainence of marine ecosystems

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GENERAL STUDIES (TEST CODE : 1411)

Name of Candidate	SRISHTI SINGH		
Medium Eng./Hindi	English	Registration Number	665492
Center	ORN	Date	24/7/20

INDEX TABLE

Q. No.	Maximum Marks	Marks Obtained
1	10	
2	10	
3	10	
4	10	
5	10	
6	10	
7	10	
8	10	
9	10	
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11	15	
12	15	
13	15	
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15	15	
16	15	
17	15	
18	15	
19	15	
20	15	

Total Marks Obtained:

Remarks:

INSTRUCTIONS

1. Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code).
   उत्तर पुस्तिका में सूचनाएं भरना आवश्यक है (नाम, प्रश्न–पत्र कोड, विद्यार्थी क्रमांक आदि)।
2. There are **TWENTY** questions printed in **ENGLISH & HINDI**
   इसमें बीस प्रश्न हैं अंग्रेजी और हिन्दी में छपे हैं।
3. **All questions are compulsory.**
   सभी प्रश्न अनिवार्य हैं।
4. The number of marks carried by a question/part is indicated against it.
   प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं।
5. Answers must be written in the medium authorized in the Admission Certificate, which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in medium other that the authorized one.
   प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए जिसका उल्लेख आपके प्रवेश पत्र में किया गया है और उस माध्यम का स्पष्ट उल्लेख प्रश्न–सह–उत्तर (क्यूसीए) पुस्तिका के मुख्य पृष्ठ पर अंकित निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिए गए उत्तर पर कोई अंक नहीं मिलेंगे।
6. Word limit in questions, if specified, should be adhered to.
   प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
7. Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.
   उत्तर पुस्तिका में खाली छोड़ा हुआ पृष्ठ या उसके अंश को स्पष्ट रूप से काटा जाना चाहिए।

EVALUATION INDICATORS

1. Contextual Competence
2. Content Competence
3. Language Competence
4. Introduction Competence
5. Structure - Presentation Competence
6. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

All the Best

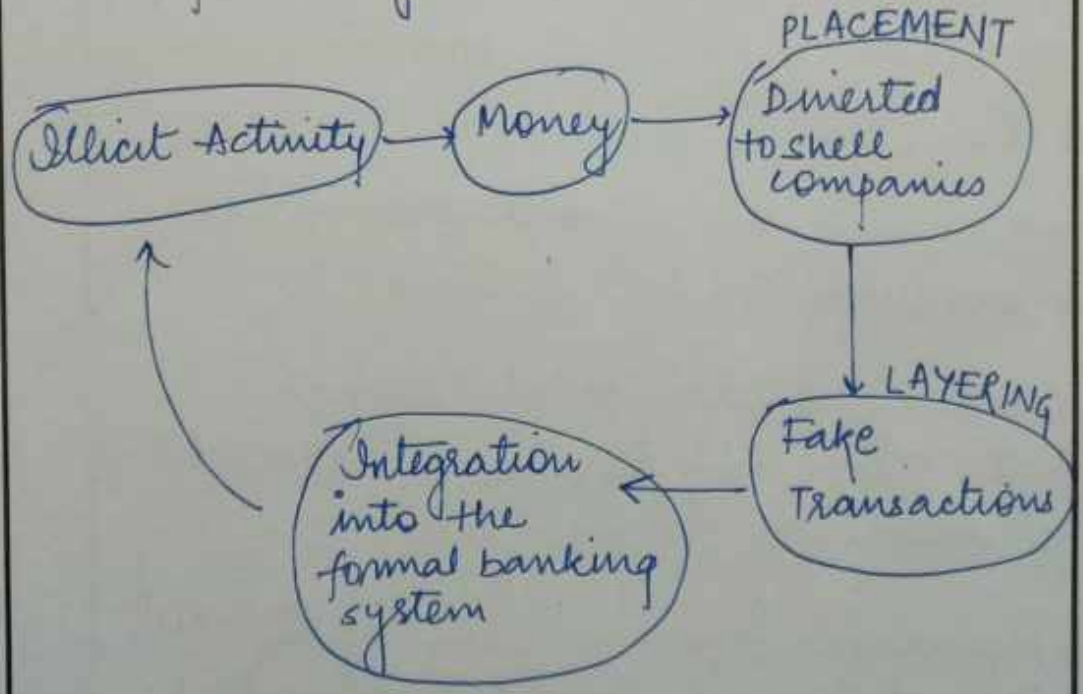
Don't write anything this margin (इस भाग में कुछ ना लिखें)

1. Why are shell companies seen as attractive vehicles for those seeking to launder money or conduct illicit activity? Highlight some steps that have been taken by the government in recent times to curb shell companies in India. **(150 words) 10**

जो लोग धनशोधन या अवैध गतिविधियां संचालित करना चाहते हैं, उनके द्वारा शेल कंपनियों को आकर्षक माध्यम के रूप में क्यों देखा जाता है? भारत में शेल कंपनियों पर अंकुश लगाने के लिए हाल के दिनों में सरकार द्वारा उठाए गए कुछ कदमों पर प्रकाश डालिए।

Shell companies are companies with absence of capital, infrastructure & assets frequently used for money laundering.

They are often seeked as means to divert illicit money, in order to integrate it in formal system



They are mostly situated in tax havens, making it easier for money launderers & hence seen as an attractive vehicle

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Steps Taken by Government:

(i) Collaboration of Income Tax Deptt & ministry of corporate affairs to nab Shell companies.

- In past 4 yrs, lacs of companies have been identified
- Operation Clean Money was recently conducted

(ii) Special Task Forces for Black Money.

(iii) Signing of DTAAs with countries such as Mauritius

iv) Agreements on disclosures by tax havens such as Switzerland

v) Tracking of companies through digitisation, PAN card numbers made mandatory etc.

vi) Empowering agencies such as ED, NIA to look for money laundering

These steps have been helpful in tracking shell companies.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

2. What is SMART policing? Highlight the reforms required in the current system to realize this vision. (150 words) 10
स्मार्ट (SMART) पुलिसिंग क्या है? इस दृष्टि को साकार करने के लिए वर्तमान प्रणाली में आवश्यक सुधारों पर प्रकाश डालिए।

SMART Police stands for

S - Sensitive & strict
M - Modern with Mobility
A - Alert & Accountable
R - Reliable & Responsive
T - Trained & Technosavy

It is a modern concept of re-inventing police forces, to meet with the challenges of the day in the most effective manner.

Reforms needed in policing :

- Better Training of forces :
  - Use of technology
  - Upgraded curriculums.
  - Sensitivity Training
  - Equipped with modern technology
  - Digitised & friendly with internet.

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- More funds for :
  - Better equipments & arms
    eg: Taser guns, Night Vision Goggles.
  - Increasing mobility of forces
    - Better vehicles for patrolling

- More Recruitment & force :
  - Proper advertisement & encouragement
  - Better service conditions.
  - Hiring professionals such as forensics, cyber security etc.

- Digital database of police across country :
  - More agility & efficiency in catching criminals
  - Response to public
    eg: Mumbai Police Twitter Account.

- Reform in Archaic laws :
  - More accountability of police & better "watching of the watchguards"

Don't write anything this margin (इस भाग में कुछ ना लिखें)

3. Giving a brief account of the Bodoland dispute, discuss the key aspects of the third Bodo Peace Accord. **(150 words) 10**
बोडोलैंड विवाद का संक्षिप्त विवरण देते हुए, तृतीय बोडो शांति समझौते के प्रमुख पहलुओं की विवेचना कीजिए।

Bodos are the largest tribal group of Assam, who have been demanding a separate state of Bodoland since 1960s.

The dispute can be summarised as:

→ Demand risen by ABSU, insurgency started under NDFB.

→ 2 Bodo accords signed, previously which gave Bodo a 6th schedule status, a tribal advisory council.

→ The demands of certain hill groups remained unfulfilled for which a third accord has been signed.

Features of 3rd Peace Accord:

(I) Bodoland Territorial Area District is extended to certain new villages predominated by Bodos

II) Exemption of BTAD from CAA.

III) Bodo language in Devanagri give associate language status in Assam

Don't write anything this margin (इस भाग में कुछ ना लिखें)

- Increase in assembly seats
- Bodos living in hills would be given scheduled hill tribe status
- special Development package & Monetary help.

These steps would:

- Bring stakeholders together
- Help in protecting unique Bodo identity
- Increase harmony in the region.
- Reduce insurgency.

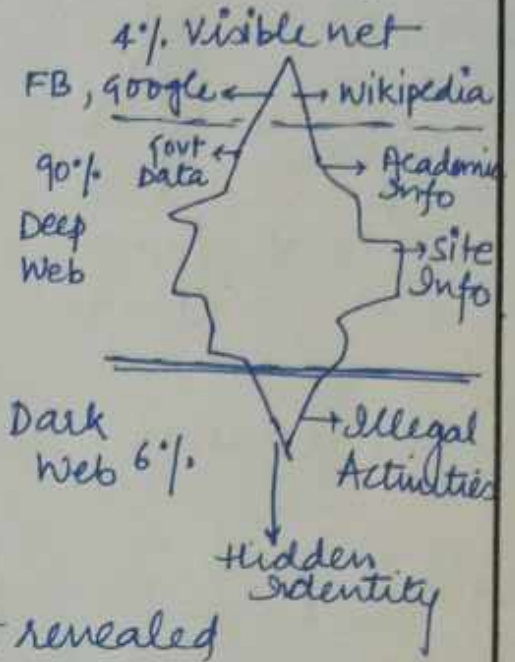
Don't write anything this margin (इस भाग में कुछ ना लिखें)

4. What is 'dark net'? How does it pose a security challenge for India? (150 words) 10

'डार्क नेट' क्या है? यह भारत के लिए कैसे सुरक्षा चुनौती खड़ी करता है?

Dark net is the part of internet inaccessible through traditional means such as search engines

About 6% of the internet services comprise of dark web



These "~~ossion~~-sites" as they are called pose issues because:

- Identity of users not revealed
- can't be easily tracked.
- Hub of illegal activities

In 2019, several cases of assasins, drugs and stolen artefacts had been discovered on Dark Web.

security challenge for India:

- Lack of Digital literacy
India has 3rd largest internet using population but very low digital literacy

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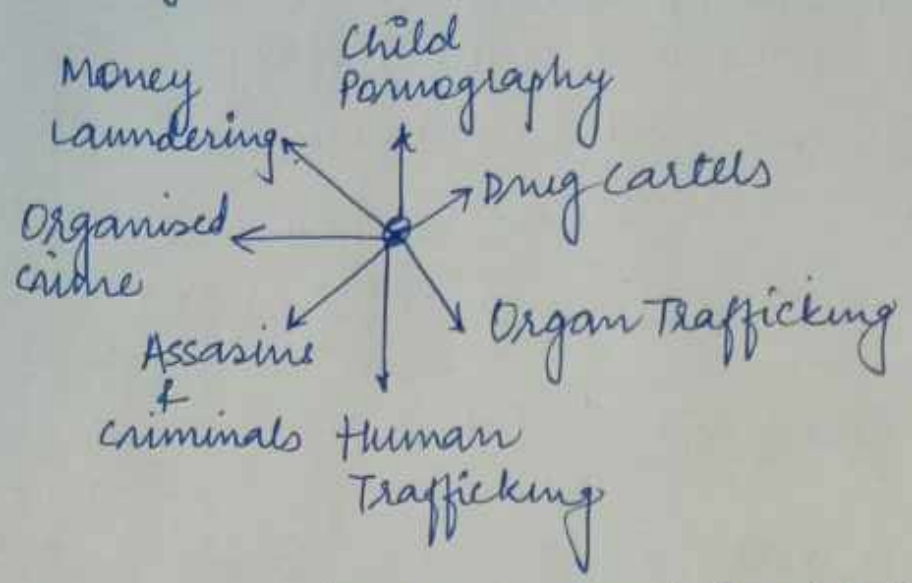
- Illegal Activities



All are available through Dark web

- lack of proficiency of data professionals
  - Police & security agencies lag behind in the race due to new technology & ways of breaching cyber security

- Threat to personal & sensitive data.

Thus dark web should be taken as an urgent area of attention & needed steps should be taken.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

5. Given the duties and functions of the Chief of Defence Staff (CDS), discuss why its establishment is being seen as an important defence reform.
(150 words) 10

चीफ ऑफ डिफेंस स्टाफ (CDS) के कर्तव्यों और कार्यों को देखते हुए, चर्चा कीजिए कि इसकी स्थापना को एक महत्वपूर्ण रक्षा सुधार के रूप में क्यों देखा जा रहा है।

Chief of Defence Staff, is the head of all 3 armed forces. It was first recommended by Kargil Committee post 1999 war.

Why is it important ?

- Coordination between the forces in case of war.
- Better utilization of funds & resources
- Attention to need of all three forces.
- Direct advisory to government.
  - Acts as a link between forces & government.
- Tending to the concerns of different forces
- Modernization of armed forces becomes more spearheaded

Functions & Duties:

- He would serve as a Chief of Staff Committee comprising of heads of all 3 armed forces.

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- He would serve as head of Deptt of Military affairs (DMA) & advisor to Defence Minister.

- He wouldn't take any strategic decisions but work towards better coordination amongst the forces.

- He is vested with authority in prioritising inter service procurement decisions

- He will also perform advisory role in Nuclear Command Authority (NCA).

Thus CDS, in this way proves to be an important reform in defence.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

6. Data Protection is not just a privacy issue, it is also a national security issue. Discuss. (150 words) 10

डाटा संरक्षण सिर्फ निजता का मुद्दा नहीं है, अपितु यह राष्ट्रीय सुरक्षा का भी एक मुद्दा है। चर्चा कीजिए।

Data Protection has been a burning issue in recent years, with increasing advent of online services, especially in post COVID world.

- SC in Puttuswamy case, has upheld "Right to Privacy" as a fundamental right putting data protection as urgent need

- India is the 2nd largest smartphone user, with budding access to internet services, engraving threat to personal data

- Also, with increasing e-governance, government services have also taken online path eg: IRCTC, e-tendering, etc

- Sensitive information also lies on cyber platforms
  eg: Kudankulam Plant hacking.

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- India is also the beholder of world's largest online ID system - AADHAR

. Rising technology has given way to use of data in waging crime, inciting violence & causing cyber terrorism.

eg: ISIS using FB to identify potential recruits.

Thus.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

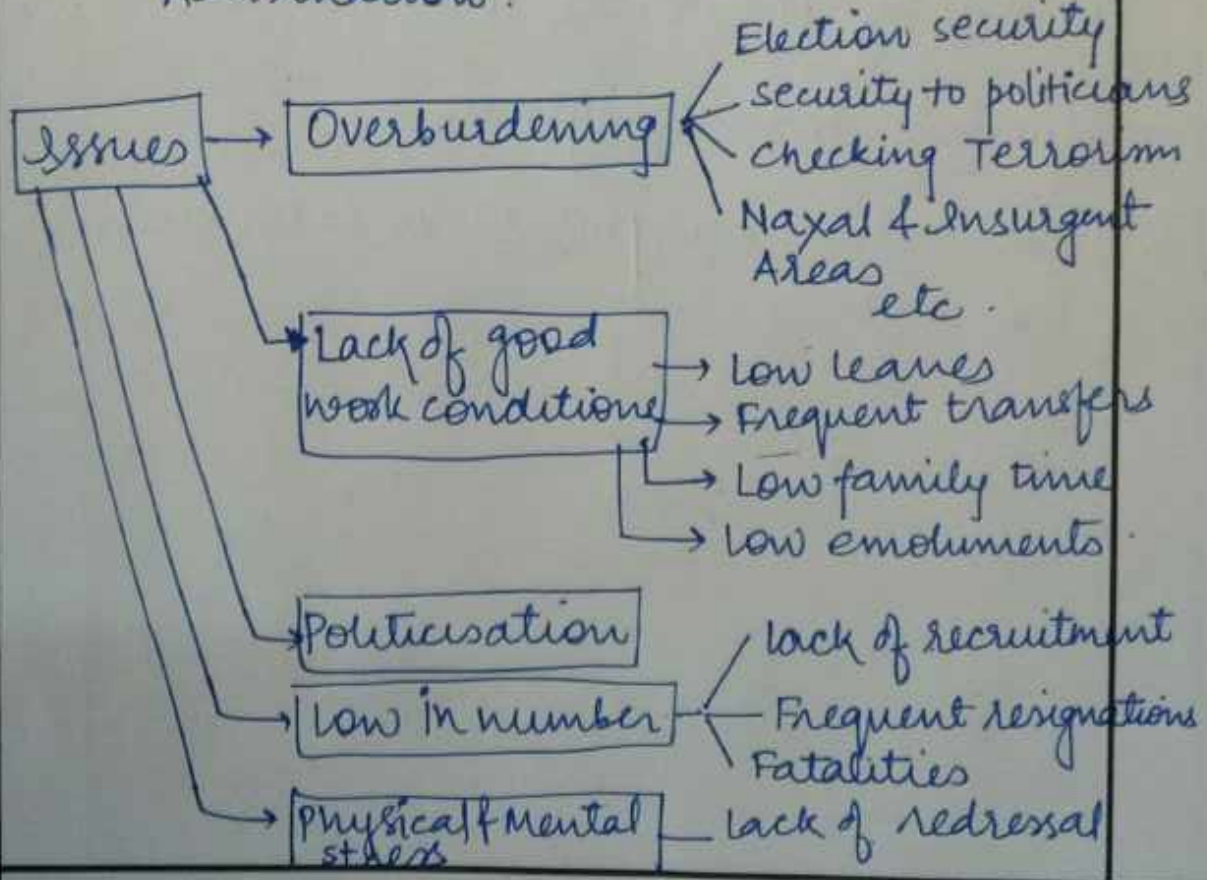
7. Highlighting the role of the National Security Guard in India, discuss the issues associated with this force. What are the reforms required in this regard? **(150 words) 10**

भारत में राष्ट्रीय सुरक्षा गार्ड की भूमिका को रेखांकित करते हुए, इस बल से संबद्ध मुद्दों की विवेचना कीजिए। इस संबंध में किन सुधारों की आवश्यकता है?

National security guard, is a central Armed Police Force, formed in 1986 through an act of Parliament to check terrorist activities

It has played important role in

- Blue Star Mission
- Akshardham Attack.
- Curbing violence post Indira Gandhi's Assasination.



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Reforms needed :

- Creation of more forces through:
  - Better encouragement to youth
  - More emoluments for work
  - Better work conditions

to reduce overburdening

- strengthening of state police forces
- Minimum 100 day leaves, as recently pointed by Honorable Home Minister
- Grievance Redressal system
- Better arms, equipments to cater needs of the soldiers.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

8. Highlighting the key changes made by the National Investigation Agency (Amendment) Act, 2019, discuss the objections that have been raised against these. **(150 words) 10**

राष्ट्रीय अन्वेषण अभिकरण (संशोधन) अधिनियम, 2019 द्वारा किए गए महत्वपूर्ण परिवर्तनों को रेखांकित करते हुए, इनके विरुद्ध उठाई गई आपत्तियों पर चर्चा कीजिए।

Recently, NIA Act was amended by Parliament.

Changes

- can proceed cases in foreign countries
- Expansion of areas - cyber security, money laundering etc
- Changes in UAPA Act
  - More power to NIA director - seizure of property
  - Investigation by an inspector level officer
  - Individuals could be declared 'terrorists'

Objections Raised

- Against Federalism
  - Maintainence of police & public order is a state subject while criminal law. falls in concurrent list & national security in union list

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Thus NIA gives scope of infringement by centre in state domain

- several new provisions such as ~~[illegible]~~ cyber crime have yet not been defined

- combined with UAPA, the acts take "draconian" colour & pose a threat of misuse by agencies.
  - Individuals could be declared terrorists

- The act empowers NIA to investigate crimes against citizens of India or "affecting interest of India"

  ⇓

  This has scope of misuse as it is not explicitly defined.

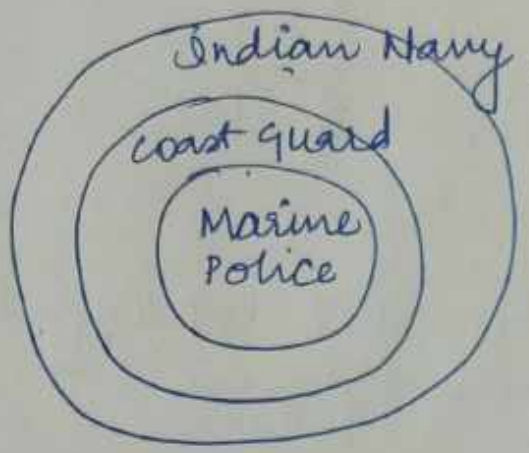
Thus NIA amendment acts have raised some concerns, which should be adequately dealt.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

9. Subsequent to the 26/11 Mumbai attacks, the coastal security arrangement has been thoroughly reviewed by the Government of India. Comment **(150 words) 10**

26/11 मुंबई हमलों के उपरांत, भारत सरकार द्वारा तटीय सुरक्षा व्यवस्था की पूर्णतया समीक्षा की गई है। टिप्पणी कीजिए।

Post 26/11 Attacks a 3 layered coastal security arrangement was proposed by GOI, to ensure protection of territorial waters



~~Cast~~ several steps have been taken in this account :

- Modernization of coastal forces : Use of GPS, patrolling, RFIDs for ships & fishing vessels. etc.
- Use of satellites for coastal patrolling.
- Training to forces & combined training exercises with other countries.

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Yet several loopholes remain, specially with Marine Police :-

- They come under state jurisdiction
  ⇓
  Variation across states
- Low training & efficacy as compared to other 2 forces
- Negligence on the part of states in coastal management
- Shipping vessels are still not tagged in entirety by state agencies
- Lack of fund allocation by states & poor coordination.

Thus these lacunae must be fixed and steps for better coordination needs to be taken.

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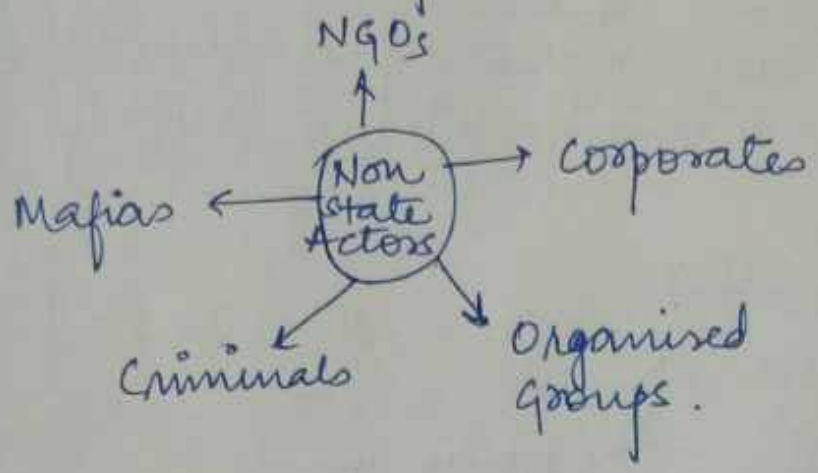
10. Non-state actors are significant conduits in many important national security challenges faced by India. Explain with examples. **(150 words) 10**
गैर-राज्य अभिकर्ता भारत द्वारा सामना की जाने वाली अनेक महत्वपूर्ण राष्ट्रीय सुरक्षा चुनौतियों में उल्लेखनीय वाहक हैं। उदाहरण सहित स्पष्ट कीजिए।

Non state actors are agencies non sponsored by state, but posing great influence on state activities. They may also create a threat to security.



Significance:

+ve:

- They can act as facilitators of national security.
  eg: corporates sponsoring govt. projects through PPP models.

- They can create awareness & reduce regional insurgencies
  eg: NGOs in Naxal Areas such as Gonij feeding mirals.

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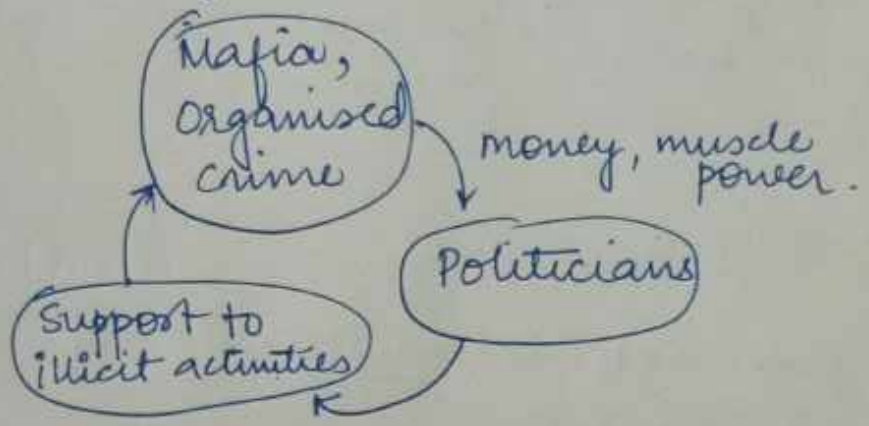
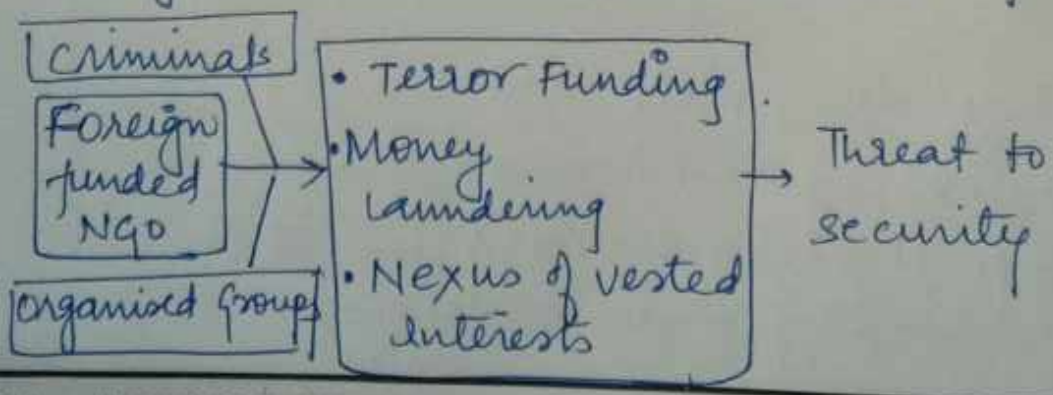
-ve

- Influence on politics:
  - Nexus with bureaucrag & politicians
    eg: Illegal mining in Keonjhar
  - Criminalisation of politics:
    24% Rajya Sabha members face criminal cases → Threat to internal security
  - Circle of crime



eg: North East Insurgency.

- Itself a threat to internal security



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11. Incidents of naxal violence and its resultant deaths have been reducing consistently in the past few years. In this context, give an account of the multi-pronged approach that has been followed by the central and state governments for combating naxalism. (250 words) 15

विगत कुछ वर्षों में नक्सल हिंसा और इसके परिणामस्वरूप होने वाली मृत्यु की घटनाओं में निरंतर कमी आई है। इस संदर्भ में, नक्सलवाद से निपटने के लिए केंद्र और राज्य सरकारों द्वारा अपनाए गए बहुआयामी दृष्टिकोण का विवरण प्रस्तुत कीजिए।

According to MHA, Naxalism has been reducing in India post 2009, from covering 1/3rd districts of India to now being in 30 districts of the country.

This has been possible due to combined efforts of states & centre against Naxalism:

(I) Police Reforms

i) Modernisation of Police force scheme
- Fortified Police stations
- Upgradation
- Civil Action programme — nukkad, jingles, plays to bridge gap.

ii) Batallions:
- CRPF Cobra
- Greyhounds.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

- Unified command for Jharkhand, Orissa, Chattisgarh.

iii) Surrender ~~com~~ cum rehabilitation policy.

II) Developmental Efforts :

(i) Integrated Action Plan for Naxal Areas

ii) Aspirational Districts Programme.

iii) PM Rural Development programme

iv) ROSHNI scheme under Deen Dayal Upadhyay Gram Kalyan Yojana.

v) Rural road development programme

vi) TRIFED & Van Dhan Yojana :
- Increased attention to tribal areas.

~~VII) Land~~

vii) Tribal education

viii) Scholarship schemes under PM Rural Development Fellowships.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

III. Administrative efforts

i) streamlining of ~~ao~~ land reforms
- States like Andhra abolished "Patwari" system.
- Model Tenancy Act, establishment of e-NAMs.

ii) cooperation with NGOs & civil societies

All this has resulted in reduced expanse of Red Terror, & furthering of these steps would lead to its early eradication

Don't write anything this margin (इस भाग में कुछ ना लिखें)

12. With increasing incidents of cyber attacks, it is imperative that India takes urgent steps to address the cyber security challenges that it currently faces. Discuss. (250 words) 15

साइबर हमलों की बढ़ती हुई घटनाओं को देखते हुए, यह अनिवार्य है कि भारत उन साइबर सुरक्षा चुनौतियों से निपटने के लिए तत्काल कदम उठाए जिनका वह वर्तमान में सामना कर रहा है। चर्चा कीजिए।

Recent Twitter cyber attacks on accounts of most renowned personalities such as Bill Gates, Obama, Musk etc is an eye opener for cyber attacks.

India being the 3rd largest internet user of the world & largest expanding market to cyber services, should see greater threats, which have already been noticed in attack on UIDAI data in 2019, and previous DRDO hacking.

Need
- → Low literacy & awareness
- → High & uncontrolled usage
- → Lack of uniformity across nation
- → New avenue of threat to national security
- → No limits or physical boundaries in cyber space
- → Growing proficiency of hackers

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Steps taken

- Agencies such as NCIIPC, CERT-IN
- Cyber Swachhta Kendras made in several cities
- Digital literacy programmes such as PMGDISHA
- National Technical Research organisation to look for more new technology
- Technology sharing Agreements with countries like USA, Germany, Japan etc
- Recently passed Data protection Bill, & subsequent localization of critical & sensitive data
- Courses on ethical hacking, cyber security introduced in curriculum

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Way Forward

- More workforce
  - India needs 1 million trained professionals while we have just 2 lacs
- Private Partnership
  - Google, Microsoft have already been encouraging digital spread
  - Further CSR & PPP must be used
- Signing Budapest convention
  To get access to global technology
- Partnership with nations & making it a global fight
- Awareness Generation – Campaign of the scale of "Jago Grahak" for cyber attacks
- More secure infrastructure – Through R&D, technology sharing & Smart policing.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

13. Identify the various issues related to Indo-Bangladesh border and challenges faced in managing this border. What measures has the government taken in this regard? **(250 words) 15**

भारत-बांग्लादेश सीमा से संबंधित विभिन्न मुद्दों और इस सीमा के प्रबंधन के समक्ष आने वाली चुनौतियों की पहचान कीजिए। इस संबंध में सरकार ने क्या उपाय किए हैं?

Indo Bangladesh Border has been marred by various issues creating problems for its patrolling & management.

Issues

- Geography
  - Difficult terrain
  - Multiple rivers – Teesta, Bramputra, Ganga, Barak etc, along with tributaries
  - Dense Rain Forests & Mangroves of Sunderbans, Purvanchal hills etc.
  - Regular flooding & change of course of rivers.

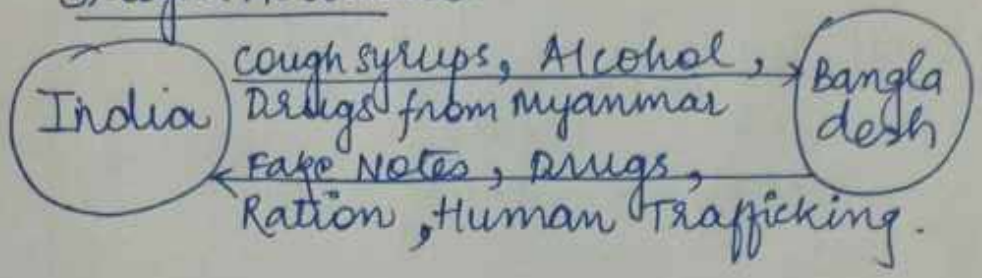
- Manmade Borders

Due to above reasons its is not possible to create natural borders & manmade borders are difficult to manage.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

- Frequent migration / infiltration
  - Bangladeshi illegal immigrants come to India in search of better jobs
  - The borders are porous & easy to cross, due to existence of several middlemen.

- Illegal Activities



Measures Taken by Govt :

- Collaboration with Bangladesh through dialogue mechanisms, International organisations such as SAARC, BIMSTEC etc.

- Creation of Integrated Check Posts eg: Petrapole to ensure surveillance
- Establishment of Border Haats

Don't write anything this margin (इस भाग में कुछ ना लिखें)

- Border surveillance through satellites, GPS etc.

- CAPF forces such as BSF guarding the borders

- Creation of connectivity in remote areas to improve border surveillance.

Further steps like geo mapping of the border region must be done to identify loopholes & ensure security

Don't write anything this margin (इस भाग में कुछ ना लिखें)

14. In context of challenges faced by India due to terrorism, it is important to identify and address terror-organized crime nexus, and it's financing through drug trafficking. Discuss. **(250 words) 15**

आतंकवाद के कारण भारत द्वारा सामना की जाने वाली चुनौतियों के संदर्भ में, यह महत्वपूर्ण है कि आतंकवाद-संगठित अपराध सह-संबंध और मादक पदार्थों की तस्करी के माध्यम से इसके वित्तपोषण को चिन्हित किया जाए और उसका निवारण किया जाए। चर्चा कीजिए।

Terrorism in present time has adopted newer dimensions in its expanse confluencing with organised criminal groups.

There has been a 3 step process observed :

CO-EXISTENCE

Terror Groups & OCGs exist together

→

CO-OPERATION

Use of OCGs by Terror Groups for various process

↓

CONFLUENCE

Terror Groups & OCGs merging into one unit.

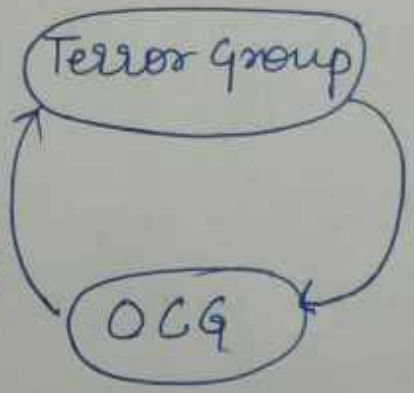
This can be seen in eg of Kashmir, North East etc.
eg: Dcompany - LeT in Bombay Attacks.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

This nexus can be on the grounds of:

1) **Ideology** — • common motives of demolishing state
• common reasons of fight
• Common relative deprivations
eg: Kashmir Insurgents & Terror groups in recent times.

(II) **Need**:



• Funding
• Shelter
• Performing "postman" operation for weapons.

• Hegemony
• Power in the region

How has the nexus evolved:

- North East : • Use of drug peddlers by Insurgents, to addict youth & make them join insurgency.
• Funding from the money earned by trafficking.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Kashmir : State has seen confluence of both, Terror groups now operate their own OTGs for funds & manpower.

Steps to be taken :

(I) Urgent need of creation of youth sensitisation drives in affected areas

II) Development of the areas on priority basis

III) creating dual approach to break nexus :
- Anti Terror Activities through forces
- Espionage & Intelligence to track drug cartels.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

15. What are the social, economic and political costs of money laundering? Highlighting the necessity of trans-national cooperation for its prevention, enumerate various initiatives taken by the international community.

(250 words) 15

धनशोधन की सामाजिक, आर्थिक और राजनीतिक लागतें क्या हैं? इसकी रोकथाम के लिए राष्ट्र-पारीय सहयोग की आवश्यकता को रेखांकित करते हुए, अंतर्राष्ट्रीय समुदाय द्वारा की गई विभिन्न पहलों को सूचीबद्ध कीजिए।

Money laundering is the process of cleaning up of money earned from illegal means or illicit activities

It has various consequences:

- Social cost
  - → Inequity in society
  - → Money in hands of few
  - → Growth of crimes & fattering law & order
  - → Glorification of launderers leads to poor messaging in society
  - → High corruption & failure of govt. policies
  - → Social Unrest & threat to internal security eg: JP Mont against corruption.
  - → Growth of poverty & unemployment
  - → Creation of new challenges in social domain

eg: Money laundering → lack of money to poor → Poverty & Unempt → Child labour, Human Trafficking, Crime↑

Don't write anything this margin (इस भाग में कुछ ना लिखें)

- Economic cost
  - Destruction of taxpayer's money & national wealth
  - Low growth due to diversion of funds
  - Poor economic development
  - Failure of formal banking due to proliferation of Hawala, Shell companies etc
  - Cost of production increases as money is diverted through corruption
    - Inflation
    - Weakening of Domestic Currency
    - Low exports
    - Low GDP
  - Informalisation of economy
  - May lead to widespread crisis eg: Zimbabwe.

- Political cost
  - Criminalisation of Politics
  - Nexus with illicit activities

Don't write anything this margin (इस भाग में कुछ ना लिखें)

In such scenario, global cooperation becomes necessary:

GLOBAL ORGANISATIONS & PLATFORMS:

(I) Vienna Convention : To regulate money laundering

II) G-10 guidelines on money laundering

III) Basel Guidelines

IV) FATF → In recent years, it has emerged as the most important agency

V) IMF : Objective of reducing terror funding

VI) UNODC.

Apart from these organisations, several bilateral & multilateral agencies such as SCO, have come up to reduce moneylaundering.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

16. Despite its obvious advantages, doubts have been raised regarding the ability of Comprehensive Integrated Border Management System (CIBMS) to secure India's key borders. Discuss. (250 words) 15

इसके स्पष्ट लाभों के बावजूद, भारत की प्रमुख सीमाओं को सुरक्षित रखने में व्यापक एकीकृत सीमा प्रबंधन प्रणाली (CIBMS) की क्षमता के संबंध में संदेह व्यक्त किया जाता रहा है। चर्चा कीजिए।

Comprehensive Integrated Border Management System was envisaged for Indo-Pak borders post Uri & Pathankot attacks for complete border management.

The idea was to use technology, and latest services such as GPS, satellites, intelligence, UAVs etc for border management.

Such an initiative had been earlier adopted by USA in guarding its Mexican borders.

Advantages:

- It creates a comprehensive tracking mechanism,
- All areas are guarded through use of technology

Don't write anything this margin (इस भाग में कुछ ना लिखें)

- It helps check illicit activities such as tunneling to cross border, drug trafficking etc.

- It preemtively guards border, can provide early warning against attacks

- It would reduce fatalities on border of our forces.

Disadvantages:

- It doesn't create effective management & still needs professionals for its use

- lack of trained professionals causes insufficient use

- lack of electricity in such areas is a challenge

- countries using the means have suggested that it is not a full proof mechanism of border surveillance

- It failed in US-Mexico case.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Thus India needs to equip the technology with trained manpower for best use.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

17. Why is radicalisation seen as a significant security challenge for India? Suggest ways to tackle it. **(250 words) 15**

कट्टरपंथीकरण को भारत के लिए एक महत्वपूर्ण सुरक्षा चुनौती के तौर पर क्यों देखा जाता है? इससे निपटने हेतु उपायों का सुझाव दीजिए।

Radicalisation is the use of extreme ideologies to incite public opinion & create disruption in public order.

Radication in India can be on grounds of

- Caste Discrimination
- Religious Fundamentalism
- Linguistic Grounds
- Regionalism
- Racialism
- Communalism

Due to great diversity, they often create difference of opinions

- Objective Realisation & Subjective Reality
- Violence & Further Radicalisation
- This difference is radicalised by antisocial men
- They incite feeling of terror & cause relative deprivation

Don't write anything this margin (इस भाग में कुछ ना लिखें)

Steps to tackle it:

- Control over Fake Propaganda through social media, hate speech, & advertisements
  - Use of Sec 144 of IPC in judicious manner to curb violence

- Creation of environment of brotherhood
  - → Through education
  - → " secularisation of society
  - → " use of charismatic Personalities

Don't write anything this margin (इस भाग में कुछ ना लिखें)

→ Curbing politicisations of such issues

→ Development of all sections of society.

Don't write anything this margin (इस भाग में कुछ ना लिखें)

18. Identify the opportunities and challenges that social media presents to the law enforcement agencies in India to counter national security threats. What steps have been taken to address the challenges? **(250 words) 15**
राष्ट्रीय सुरक्षा खतरों का मुकाबला करने में सोशल मीडिया द्वारा भारत में कानून प्रवर्तन एजेंसियों के समक्ष प्रस्तुत किए जाने वाले अवसरों और चुनौतियों की पहचान कीजिए। इन चुनौतियों से निपटने के लिए क्या कदम उठाए गए हैं?

Social Media in recent years has grown into an enormous size, increasing 6 times in its users in India between 2012-18.

Opportunities:-

- Greater voice to the people.
  eg: MeToo campaign led law agency identify perpetrators.
- Better & easy way to spread information
  eg: use of Twitter A/c by MEA.
- Better governance & grievance redressal
  eg: cyber complaint sites of Delhi Police
- Platform to showcase talent:
  eg: Kambala participant video going viral.

- More penetration of educational health services
  eg: Sites like Telegram offering platforms for discussion

- Wider scope of discussions eg: LGBTQ issues of menstrual hygiene for recent discussions

Challenges

i) Anonymity: Anyone can post anything with no credibility of source

ii) Fake news — It has resulted in severe impact such as mob lynching in NE, vaccine misinformation, growing fundamentalism etc

iii) Cases of cyber crime — Access to public & private information, cyberstalking, bullying, spamming, harassment

iv) Public shaming: eg: Recent Nepotism debate led to shaming of several public figures

vi) Use by terror groups : ISIS having brought FB.

Steps to be taken :

- Collaborating with social media sites :
  - Twitter has begun initiative to check fake news, such initiatives need to be expanded
  - Reporting & deactivation of A/cs spreading fake news
  - Dedicated law to tackle social media
  - Use of social media by law enforcement agencies to counter fake news
- Youth sensitization
- Digital Awareness

Combat Armed Police Forces are, armed under MHA to tackle internal security situation in the country.

They include - RAF, ITBP, Assam Rifles, NSG, CRPF, CISF, SSB.

ISSUES

- Poor service conditions: Acc. to NCRB usage rates of suicides in CAPFs

  Causes :
  - Poor residence
  - Ration
  - Lack of infrastructure & equipments
  - Low no. of leaves & low family time

- Overburdened & understaffed:
  [illegible] more than 40, [illegible]

Causes – low pay as compared to other
– lack of interest of youth towards services
– high stressed

Training fatigue & lack of motivation

iii) overdependence of state on CAPF for security
eg. naxal regions.

iv) often flooded by secondment from IPS → lack of credit in promotion

v) Absence of grievance redressal mechanisms

vi) frequent repostings & posting of multiple forces
eg. election duty, security of politicians

Need of the hour:

- State must develop capabilities to fight insurgent
- Better work conditions to be ensured
- Update curriculum & training of CAPF
- More leaves to the servicemen
- Limited deputation of IPS officers in CAPF
- Grievance Redressal Mechanism for the forces.
- Intelligence gathering mechanism to reduce fatalities

VISION IAS

The ongoing COVID-19 pandemic has enlightened the need of a more inclusive internal security with individualistic approach

Prior to the pandemic, the approach adopted was towards allocating overall attention with limited attention to each region.

COVID has grown attention towards:

(i) Human Interactions
- Rising cases of suicides
- Growing depression in doctors & officials
- Violence against Corona Warriors

(ii) Migrant Crisis
Unemployed migrants → easy prey to managers
→ high level of deprivation & anger against state

(iii) Outsiders → Easily welfare through single persons inequality
→ Incidents such as Markaz
↑ islamophobia
↓
lead to communal tensions

(iv) Individuals & Social media
- widespread fake reporting
- Growing negativity → can cause blow to security

Encouragement to security officials
— They have been cornerstone of lockdown strategy

Role of police → Growth from

- Caregivers
- Enforcers of executive
- Fighters against corona

Law & Order

Investigation

To

Thus COVID-19 has put security challenges to a never before scale while new areas of concern such as care to security officials of management & stress at individual level